Bondar-Clegg (Ottawa)

REQ. NO. 2-9144-4

URANIUM TAILINGS UTS-1 476

RECOMMENDED VALUES FOR REFERENCE URANIUM TAILINGS

CONTRACT REPORT NO. OSQ82-00169

Constituent	Sample Size (g)	Test portion 1	2	3	4	5	
Fe (total) NM%	0.5	4.80	4.84	4.72	4.80	4.80	4.792
Ti colo %	5.0	0.33	0.33	0.32	0.33	0.34	0.33
Al AA %	0.5	5.92	6.08	6.00	6.12	5.88	6.00
Ca AA %	0.5	5.00	5.04	5.04	5.12	5.08	5.06
Ba xrt %	5.0	0.036	0.040	0.034	0.040	0.037	0.037
U Fluor ppm	2.0	53	54	50	46	47	50
Th Xrt ppm	5.0	145	143	135	150	136	142
S (total) Vol%	1.0	1.04	1.07	1.03	1.16	1.14	1.09
SO_4^{2-} Vol%	20	274	276	2.72	2.71	1.72	2.73

4 pp

% Sin So_4 = $\frac{1}{3}$ of 2.79 = 0.91%

ie almost all of sulfur = SO_4^{2-}

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MICROMEDIA

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Constituent	Sample Size (g)	Test portion 1	2	3	4	5	
Fe (total) %	0.5	3.24	3.24	3.12	3.16	3.16	3.18
Ti %	50	0.20	0.20	0.21	0.22	0.19	0.20
Al %	0.5	2.56	2.60	2.56	2.60	2.52	2.57
Ca %	0.5	0.386	0.384	0.380	0.386	0.370	0.391
Ba %	5.0	0.050	0.048	0.045	0.054	0.051	0.050
U ppm	20	55	55	55	54	53	59
Th ppm	5.0	177	179	185	186	188	183
S (total) %	1.0	3.50	3.44	3.44	3.43	3.44	3.45
SO_4^{2-} %	2.0	0.92	0.92	0.93	0.91	0.92	0.92

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Constituent	Sample Size (g)	Test portion 1	2	3	4	5	
Fe (total) %	0.5	3.08	3.16	3.20	3.12	3.20	3.13
Ti %	5.0	0.33	0.33	0.33	0.34	0.34	0.33
Al %	0.5	5.60	5.64	5.56	5.52	5.68	5.60
Ca %	0.5	3.44	3.52	3.44	3.56	3.56	3.50
Ba %	5.0	0.043	0.043	0.043	0.042	0.042	0.043
U ppm	2.0	524	528	514	516	521	521
Th ppm	5.0	131	148	136	137	131	137
S (total) %	1.0	0.266	0.262	0.260	0.243	0.253	0.257
SO_4^{2-} %	2.0	0.021	0.022	0.012	0.013	0.016	0.017

URANIUM TAILINGS UTS-4

Constituent	Sample Size (g)	Test portion 1	2	3	4	5	
Fe (total) %	0.5	2.56	2.56	2.56	2.60	2.56	2.57
Ti %	5.0	0.28	0.28	0.26	0.29	0.28	0.28
Al %	0.5	6.20	6.20	6.20	6.28	6.24	6.22
Ca %	0.5	1.68	1.68	1.64	1.68	1.68	1.67
Ba %	5.0	0.003	0.002	0.004	0.003	0.003	0.003
U ppm	2.0	983	988	982	990	989	986
Th ppm	5.0	14	16	14	15	12	14
S (total) %	1.0	1.86	1.91	1.91	1.86	1.86	1.88
SO_4^{2-} %	2.0	5.30	5.35	5.25	5.30	5.33	5.31
Ni AA %	1.0	0.014	0.015	0.014	0.014	0.014	0.014
As Jar ppm	0.2	34	32	39	32	39	35

% S present SO_4^{2-} = $\frac{1}{3} \times 531 = 176$